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1 DR. STEPHEN LAKE - CONFIDENTIAL
2 IN THE UNITED STATES DISTRICT COURT
3 FOR THE SOUTHERN DISTRICT OF NEW YORK
4 CIVIL ACTION NO.: 15 Civ. 08725 (GBD)
5

6 UMB BANK, N.A., AS TRUSTEES,)
7)
8 VS.)
9 SANOFI,)
10)

11)
12 VIDEOTAPED DEPOSITION OF
13 DR. STEPHEN LAKE
14 CONFIDENTIAL - PURSUANT TO PROTECTIVE ORDER
15 BOSTON, MASSACHUSETTS
16 THURSDAY, NOVEMBER 16, 2017
17
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19 REPORTED BY:
20 DENISE D. HARPER-FORDE
Certified Shorthand Reporter (CSR)
Certified Real-Time Reporter (CRR)
Registered Professional Reporter (RPR)
Notary Public (CT, MA, RI)
CSR No. 000133
21
22
23 JOB NO.: 130190
24
25

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2 disease, lysosomal storage disorder
3 clinical trials.

4 And then at the end of 2006, I took
5 on the responsibility as lead statistician
6 for the Campath development program and was
7 in that capacity throughout the -- the
8 phase, pivotal design study and regulatory
9 approval of Lemtrada.

10 In 2012, I took the position of
11 head of Sanofi Genzyme biostatistics. So I
12 was then responsible for the full portfolio
13 underneath Sanofi Genzyme.

14 At the -- in March 2017, I left
15 Sanofi and joined Clementia
16 Pharmaceuticals, which is a small
17 pharmaceutical company developing a drug
18 for a very rare bone disease.

19 Q. And why did you leave Genzyme?

20 A. Well, I had been with Genzyme and
21 then Sanofi for basically my entire career
22 and decided I wanted a change. What I was
23 doing in my -- at the time I left Sanofi I
24 was an Associate Vice President of
25 Biostatistics.

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2 A. I think they were -- they were
3 colleagues just discussing the CVR in
4 general, and that was about it.

5 Q. Were those colleagues individuals
6 who also worked on the Alemtuzumab team?

7 A. Yes.

8 Q. Do you recall any specific
9 colleagues that you had those discussions
10 with?

11 A. No.

12 Q. Did you have any discussions with
13 any individuals who worked at Sanofi as
14 opposed to Genzyme?

15 A. No.

16 Q. What was your role on the
17 Alemtuzumab team?

18 A. So I was the lead biostatistician
19 for the Alemtuzumab clinical development
20 program. Then I also served as the -- the
21 representative for a number of different
22 functions at the -- at the clinical -- at
23 the clinical development team level. So I
24 represented biostatistics, programming,
25 data management and medical writing.

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2 MR. AMSEL: As a general matter?

3 MR. LECOURS: Yes.

4 MR. AMSEL: Then objection to form.

5 You can answer.

6 THE WITNESS: Randomized controlled
7 clinical trials are done because what you
8 would like to do is have the two groups
9 that are being assessed in the treatment
10 arms as similar as possible so that there's
11 no underlying confounders that could bias
12 the assessment of efficacy.

13 (BY MR. LECOURS):

14 Q. And the -- the controlled aspect of
15 the study, what's -- what's the purpose of
16 a control?

17 A. To provide a comparator for the
18 therapy under study.

19 Q. Are there any other purposes?

20 A. Not that I can think of.

21 Q. What -- are you familiar with the
22 concept of last patient/last value?

23 A. Yes.

24 Q. What -- and what generally does
25 that concept mean?

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2 the per protocol population analysis.

3 Q. So we -- we spoke previously about
4 randomly controlled trials. Would you
5 agree that one purpose to perform such a
6 trial is to reduce bi- -- or reduce or
7 remove bias?

8 A. A -- in terms of a randomized
9 controlled study?

10 Q. Yes.

11 A. Yes.

12 Q. And what is bias just generally
13 speaking in your understanding?

14 A. Bias -- well, the -- the technical
15 definition would be that the expectation of
16 the treatment effect in one group minus the
17 expectation of the placebo response in the
18 placebo group is not equal to the actual
19 treatment difference.

20 It is impacted in some way by
21 either the way the study was conducted or
22 differences in the patient populations.

23 Q. And if there's no placebo group as
24 with a rater-blinded study, how does -- how
25 does bias -- how does bias arise in that

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2 described earlier, to make sure the two
3 groups are essentially equal
4 statistically?

5 A. It is so that -- yes.

6 Q. So what's -- what's the purpose of
7 using a placebo in a randomized controlled
8 study?

9 A. A placebo as opposed to an active
10 control?

11 Q. Yes.

12 A. So A placebo would be subject -- a
13 placebo arm is something that the subject
14 no -- receives no therapy other than the
15 standard of care.

16 So if you're trying to establish
17 that the efficacy of your treatment is
18 better than receiving nothing but the
19 standard of care, then you could conduct
20 the placebo controlled study.

21 Q. Are you familiar with a
22 double-dummy, double-blinded study?

23 A. Yes.

24 Q. And how -- how is that type of
25 study designed?

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2 A. Well, that would be when the -- a
3 double-dummy -- sorry -- double-dummy,
4 double blinded -- double-blinded study. So
5 a double-dummy is when the -- you would
6 have -- if you have a therapy under
7 investigation, you have the therapy, and
8 then you have a placebo version of that
9 therapy.

10 And they are packaged such that you
11 cannot distinguish between the two. And
12 then the double-blind is when the -- the
13 patient as well as the site staff
14 administering the protocol are unaware of
15 the treatment assignments.

16 Q. So in a double-dummy,
17 double-blinded designed study, each
18 treatment arm is getting an active -- an
19 active comparator and a placebo; is that
20 correct?

21 A. No. In a double-dummy study, a --
22 if it's a placebo-controlled study, one
23 subject would be assigned the therapy under
24 investigation if they were randomized to
25 the investigational arm, and a -- another

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2 differently to clinical tests, particularly
3 those tests in which they are subjective
4 measures?

5 MR. AMSEL: Same objection. You
6 can answer if you can.

7 THE WITNESS: I don't know. I -- I
8 don't know.

9 (BY MR. LECOURS):

10 Q. So is it your view that there's no
11 potential that bias could be introduced if
12 patients, for example, in the Alemtuzumab
13 study, knew what treatment arm they were
14 on?

15 MR. AMSEL: Objection to the
16 form.

17 THE WITNESS: I think -- I think
18 bias could be introduced if subjects knew
19 the treatment assignment. So...

20 (BY MR. LECOURS):

21 Q. And they did, right?

22 A. Right.

23 MR. AMSEL: They did what?

24 (BY MR. LECOURS):

25 Q. Know the treat -- what treatment

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2 arm they were on --

3 A. Yes.

4 Q. -- right?

5 A. That was the design of the study.

6 [REDACTED]

17 Q. Okay. What's the statistical
18 significance of having a -- of a baseline
19 measure?

20 A. A baseline measure is what will be
21 used to -- as the reference for change
22 post-therapy and throughout the -- at the
23 end of the study.

24 Q. So it's that which all future study
25 -- future measurements are measured

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2 Q. And that could be by using
3 different medication choices with that
4 patient, for example?

5 A. Yes.

A horizontal bar chart illustrating the percentage of respondents who have heard of various topics. The y-axis lists 15 topics, and the x-axis represents the percentage of respondents, ranging from 0% to 100% in increments of 10%. Most topics show 100% awareness, while a few topics like 'The concept of climate change' and 'Renewable energy sources' show lower awareness rates.

Topic	Percentage (%)
Global warming	95
The concept of climate change	85
Renewable energy sources	75
Carbon footprint	70
Sustainable development	65
Green economy	60
Eco-friendly products	55
Climate justice	50
Renewable energy policies	45
Carbon pricing	40
Green infrastructure	35
Sustainable agriculture	30
Climate adaptation	25
Green jobs	20
Climate resilience	15

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A horizontal bar chart illustrating the percentage of respondents who have heard of different topics. The y-axis lists 15 topics, each preceded by a small black square. The x-axis represents the percentage scale from 0% to 100%, with major tick marks at 0, 25, 50, 75, and 100. The bars show varying levels of awareness:

Topic	Percentage Heard (%)
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19 Q. And he -- he was the -- was he the
20 -- he was the clinical reviewer at the
21 FDA?

22 A. Medical reviewer.

23 Q. Medical reviewer. He wasn't the
24 statistical reviewer?

25 A No

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2

[REDACTED]

1

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2

[REDACTED]

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2 [REDACTED]

18 (BY MR. LECOURS) :

19 Q. I'm going to hand you what's been
20 previously marked as Plaintiff's 32.

21 (Whereupon, Exhibit No. 32,

22 Letter, previously marked, was
23 referenced)

24 (BY MR. LECOURS) :

25 Q. Are you familiar with this

1

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2

[REDACTED]

1

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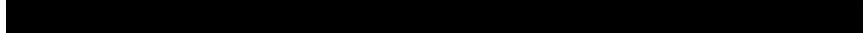
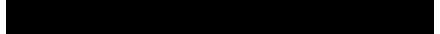
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[REDACTED]

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2 [REDACTED]

3 [REDACTED]

4 [REDACTED]

5 Q. And the article we looked at, the
6 -- the one that's -- I believe it's a
7 document, Plaintiff's 90. It's titled
8 "Alemtuzumab improves preexisting
9 disability in active, relapse and remitting
10 MS patients."

11 What data was this article based
12 on?

13 A. The CARE-MS 324 study.

14 Q. And if you turn all the way to the
15 end of the article, the last text before
16 "Alter-Contributions" states, "The outcomes
17 presented here not only support
18 Alemtuzumab's ability to slow disability
19 accumulation, but also demonstrate superior
20 benefit in improving preexisting disability
21 in patients with RRMS with an inadequate
22 response to prior DMT."

23 Do you agree with that statement?

24 A. Yes.

25 Q. Yeah, you can set that article to